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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,161	02/22/2005	Gordon Alastair Bell	PPD 50652	5654
26748 7590 09/18/2009 SYNGENTA CROP PROTECTION, INC. PATENT AND TRADEMARK DEPARTMENT 410 SWING ROAD GREENSBORO, NC 27409			EXAMINER BROOKS, KRISTIE LATRICE	
			ART UNIT	PAPER NUMBER
			1616	
			NOTIFICATION DATE	DELIVERY MODE
			09/18/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

department-gso.patent@syngenta.com

Office Action Summary

Application No.

10/525,161

Applicant(s)

BELL, GORDON ALASTAIR

Examiner

KRISTIE L. BROOKS

Art Unit

1616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Status of Application

1. Claims 1-14 are pending.
2. Receipt and consideration of Applicants amendments filed June 12, 2009 is acknowledged.
3. Rejections not reiterated from the previous Office Action are hereby withdrawn.

The following rejections are either reiterated or newly applied. They constitute the complete set of rejections presently being applied to the instant application.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chadwick et al. (US 5,229,122) in view of Kerry et al. (US 4,517,201).

Applicant claims an agrochemical composition comprising (a) a non-encapsulated aqueous solution or dispersion of an agrochemical and (b) a suspension in said aqueous solution or dispersion of a microencapsulated liquid, water-insoluble, bioperformance-enhancing adjuvant for said agrochemical.

**Determination of the scope and content of the prior art
(MPEP 2141.01)**

Chadwick et al. teach a microencapsulated pesticidal formulation comprising non-encapsulated pesticide as well as encapsulated pesticide (see the abstract). The compositions are useful against insect and acarine pests (see column 2 lines 10-28). The pesticide may be the same or different (see the abstract). Examples of pesticides include amitraz, organophosphates (e.g. chloropyrifos), carbamates (e.g. carbaryl), pyrethroids (e.g. permethrin, cyhalothrin, cypermethrin, etc.), etc. (see column 1 lines 56-64). Additional excipients that can be added include diluents, carriers, surfactants, stabilizers and synergists (see column 2 lines 5-9). Example 1 discloses a aqueous suspension of microcapsules with 20% permethrin inside the capsule and 5% outside.

Ascertainment of the difference between the prior art and the claims

(MPEP 2141.02)

Chadwick et al. do not teach the microencapsulated liquid (i.e. pesticide) adjuvant as bioperformance-enhancing for said agrochemical. This deficiency is cured by the teachings of Kerry et al.

Kerry et al. teach pesticidal compositions comprising amitraz and the synthetic pyrethroid cypermethrin (see the abstract). The mixtures of pesticide, amitraz, and synthetic pyrethroids have unexpected synergistic properties against a wide variety of pests including insects and acarids (see column 1 lines 20-25 and 36-41).

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

One of ordinary skill in the art would have been motivated to do this because Kerry et al. teach the instant pesticides as having greater pesticidal activity and synergism.

Thus, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made for the instant microencapsulated pesticide to act as a bioperformance enhancing agent because the instant pesticides (i.e. amitraz, cypermethrin) are known to enhance the activity of one another. Thus, the use of the microencapsulated pesticide will only enhance the activity of non-encapsulated pesticide upon release.

Therefore, the claimed invention would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made because the prior art is fairly suggestive of the instant composition.

6. Claims 5-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chadwick et al. (US 5,229,122), in view of Kerry et al. (US 4,517,201), further in view of Baker et al. (US 4,808,408).

Applicant claims an agrochemical composition comprising (a) a non-encapsulated aqueous solution or dispersion of an agrochemical and (b) a suspension in said aqueous solution or dispersion of a microencapsulated liquid, water-insoluble, bioperformance-enhancing adjuvant for said agrochemical.

Determination of the scope and content of the prior art
(MPEP 2141.01)

Chadwick et al. teach a microencapsulated pesticidal formulation comprising non-encapsulated pesticide as well as encapsulated pesticide (see the abstract). The pesticide may be the same or different (see the abstract). Examples of pesticides include organophosphates (e.g. chloropyrifos), carbamates (e.g. carbaryl), pyrethroids (e.g. permethrin, cyhalothrin, cypermethrin, etc.), etc. (see column 1 lines 56-64).

Additional excipients that can be added or mixed with the pesticides include diluents, carriers, surfactants, stabilizers and synergists (see column 2 lines 5-9).

Kerry et al. teach pesticidal compositions comprising amitraz and the synthetic pyrethroid cypermethrin (see the abstract). The mixtures of pesticide, amitraz, and synthetic pyrethroids have unexpected synergistic properties against a wide variety of pests including insects and acarids (see column 1 lines 20-25 and 36-41).

**Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)**

Chadwick et al. do not teach the instant adjuvant of formula I. This deficiency is cured by the teachings of Baker et al.

Baker et al. teach an improved coacervation process for microencapsulation of core ingredients that are partially soluble in the microcapsule walls where in the core ingredient is first mixed with a coacervation adjuvant prior to forming a first colloidal emulsion of core ingredient, and, after combining the first emulsion with a second colloidal solution and cooling to cause gelation, a water-soluble wax derivative is added (see the entire article, especially the abstract and column 2 lines 25-40). The core ingredients can include mosquito repellant DEET (also known as N,N-diethyl-m-toluamide), other insect repellants, insecticides, herbicides, fertilizers, etc. (see the entire article, especially column 2 lines 61-68). The coacervation adjuvant may be a

long-chain ionizable surfactant, preferably with a low hydrophile/lipophile balance (HLB) value in the range of 1 to 8, such as long-chain amines, long-chain polyamines, quaternary ammonium salts, long-chain sulfonic acid salts, long-chain carboxylic acid salts, and the like; or a long-chain ionizable organic compound, such as fatty acids, fatty alcohols and fatty esters (see the entire article, especially column 2 lines 48-60). Example 1 discloses a solution of 4.2g stearic acid in 100ml deet (~99.8g/l), emulsified in a gelatin solution where microcapsules resulted (see the entire example, column 3 Example 1 and also Example 3).

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

One of ordinary skill in the art would have been motivated to incorporate the instant adjuvant of formula I into the formulations taught by Chadwick et al. because Baker et al. teach microcapsules comprising core ingredients (i.e. DEET, insecticides, herbicides) mixed with a coacervation adjuvant such as, a long-chain ionizable surfactant.

Thus, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use incorporate the instant adjuvant of formula I into the microcapsules taught by Chadwick et al, because it is a common surfactant that may be used in microcapsules containing pesticides.

Therefore, the claimed invention would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made because the prior art is fairly suggestive of the instant composition

7. Claims 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chadwick et al. (US 5,229,122), in view of Kerry et al. (US 4,517,201), further in view of Baker et al. (US 4,808,408) and Roberts (US 5,393,791).

Applicant claims an agrochemical composition comprising (a) a non-encapsulated aqueous solution or dispersion of an agrochemical and (b) a suspension in said aqueous solution or dispersion of a microencapsulated liquid, water-insoluble, bioperformance-enhancing adjuvant for said agrochemical.

Determination of the scope and content of the prior art
(MPEP 2141.01)

Chadwick et al. teach a microencapsulated pesticidal formulation comprising non-encapsulated pesticide as well as encapsulated pesticide (see the abstract). The pesticide may be the same or different (see the abstract). Examples of pesticides include organophosphates (e.g. chloropyrifos), carbamates (e.g. carbaryl), pyrethroids (e.g. permethrin, cyhalothrin, cypermethrin, etc.), amitraz, etc. (see column 1 lines 56-

64). Additional excipients that can be added or mixed with the pesticides include diluents, carriers, surfactants, stabilizers and synergists (see column 2 lines 5-9).

Kerry et al. teach pesticidal compositions comprising amitraz and the synthetic pyrethroid cypermethrin (see the abstract). The mixtures of pesticide, amitraz, and synthetic pyrethroids have unexpected synergistic properties against a wide variety of pests including insects and acarids (see column 1 lines 20-25 and 36-41).

Baker et al. teach an improved coacervation process for microencapsulation of core ingredients that are partially soluble in the microcapsule walls where in the core ingredient is first mixed with a coacervation adjuvant prior to forming a first colloidal emulsion of core ingredient, and, after combining the first emulsion with a second colloidal solution and cooling to cause gelation, a water-soluble wax derivative is added (see the entire article, especially the abstract and column 2 lines 25-40). The core ingredients can include mosquito repellant DEET (also known as N,N-diethyl-m-toluamide), other insect repellants, insecticides, herbicides, fertilizers, etc. (see the entire article, especially column 2 lines 61-68). The coacervation adjuvant may be a long-chain ionizable surfactant, preferably with a low hydrophile/lipophile balance (HLB) value in the range of 1 to 8, such as long-chain amines, long-chain polyamines, quaternary ammonium salts, long-chain sulfonic acid salts, long-chain carboxylic acid salts, and the like; or a long-chain ionizable organic compound, such as fatty acids, fatty alcohols and fatty esters (see the entire article, especially column 2 lines 48-60).

Example 1 discloses a solution of 4.2g stearic acid in 100ml deet (~99.8g/l), emulsified in a gelatin solution where microcapsules resulted (see the entire example, column 3 Example 1 and also Example 3).

**Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)**

Chadwick et al., Kerry et al, and Baker et al. do not teach the instant adjuvant of formula (II). This deficiency is cured by the teachings of Roberts.

Roberts teach a homogenous, essentially nonaqueous adjuvant composition to improve the chemical and physical properties of a pesticides, such as an herbicide, insecticide or fungicide comprising a spray oil, a blend of surfactants and a buffering agent that when combined with a pesticide, the composition becomes a more uniform spread of the spray solution of the herbicide or pesticide (see the entire article, especially the abstract, column 1 lines 11-17 and column 2 lines 58-64). The preferred surfactants include peg esters of the formula



where $R=C_2-C_{25}$ fatty alkyl, $R'=C_2-C_{25}$ fatty alkyl and $m=1$ to 100 (see the entire article, especially column 3 lines 34-41).

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

One of ordinary skill in the art would have been motivated to do this because Roberts teaches that surfactants, such as, PEG esters are useful in improving the chemical and physical properties of pesticides.

Thus, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use an adjuvant having formula (II) in the microcapsules taught by Chadwick et al. because it is a obvious variation of surfactants that may be used in agrochemical formulations, and further, it will improve properties of the pesticide.

Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Response to Arguments

Applicant's arguments filed June 12, 2009 have been fully considered but they are not persuasive.

Applicant argues that the Examiner has incorrectly equated synergy between pesticides as provided by Kerry as suggesting adjuvancy. Applicant argues that Adjuvants themselves are not pesticides and adjuvants do not require the same regulatory requirements as pesticides.

These arguments are not persuasive. First, it should be noted that Applicant does not specifically define what adjuvants are encompassed by the phrase

"microencapsulated liquid, water-insoluble, bioperformance-enhancing adjuvant" for said agrochemical in claim 1 or the instant specification. The instant specification only generally describes compounds that may be used but does not provide a complete list of compounds that can be used in the instant invention. Further, an adjuvant is defined as a substance that is added to a pesticide or formulation to increase the efficacy or safety (as evidenced by Pesticide Adjuvants, The Pesticide Review (see 892)), or to improve the activity of another chemical (as evidenced by The free dictionary (see 892)). The term pesticide is also defined to include adjuvants and training and safety requirements are the same as all other pesticides (as evidenced by Pesticide Adjuvants, The Pesticide Review (see 892)). Thus, the phrase claimed by Applicant is broad. The Examiner has interpreted the phrase with the broadest reasonable interpretation which would include any compound that will improve the activity of another compound.

Chadwick et al. teach an insecticidal composition comprising a microencapsulated pesticide formulation suspended in a non-encapsulated pesticide (see abstract). The encapsulated pesticide can be different from the non-encapsulated pesticide (see the abstract). Examples of pesticides include cypermethrin and amitraz (see column 1 lines 56-64). Example 1 microcapsules contain an solvent (i.e. xylene) in addition to a pesticide (i.e. permethrin). Kerry et al. further teach that the addition of cypermethrin to a composition containing amitraz provides greater efficacy and unexpected pesticidal activity than would be expected. Thus, the synthetic pyrethroid will enhance the activity of amitraz when used together. Thus, it is the Examiner's position that the instant limitation of "bioperformance enhancing adjuvant" is met by the

prior art references. Especially since compositions containing the two ingredients are known to have enhanced pesticidal activity.

Therefore, Applicant's arguments of nonobviousness are not persuasive and the rejection is maintained.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristie L. Brooks whose telephone number is (571) 272-9072. The examiner can normally be reached on M-F 8:30am-6:00pm Est..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on (571) 272-0646. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KB

/Johann R. Richter/

Supervisory Patent Examiner, Art Unit 1616